

48. The method of claim 46, wherein said nucleic acid molecule comprises a promoter operably linked to a nucleic acid segment encoding at least a portion of a polypeptide of said infectious agent.

49. The method of claim 48, wherein said infectious agent is a virus.

50. The method of claim 49, wherein said polypeptide is a surface glycoprotein.

51. The method of claim 46, wherein said nucleic acid molecule comprises a promoter operably linked to a nucleic acid segment encoding a fusion protein, wherein said fusion protein comprises:

- a) a first polypeptide segment comprising at least a portion of a polypeptide of said infectious agent, and
- b) a second polypeptide segment comprising degradative enzymatic activity.

52. The method of claim 51, wherein said degradative enzyme activity is a nuclease, protease, or lipase activity.

53. A method for reducing transmission of an infectious agent from a mammalian transplant recipient to a donor cell, said method comprising:

- a) introducing a nucleic acid molecule into a cell such that, when said cell is transplanted into said mammalian transplant recipient thereby being said donor cell, transmission of said infectious agent from said mammalian transplant recipient to said donor cell is reduced, and
- b) transplanting said cell into said mammalian transplant recipient such that said cell is said donor cell.

54. A method for reducing transmission of an infectious agent from a mammalian transplant recipient to a donor cell, said method comprising:

- a) providing a cell,

b) introducing a nucleic acid molecule into said cell such that, when said cell is transplanted into said mammalian transplant recipient thereby being said donor cell, transmission of said infectious agent from said mammalian transplant recipient to said donor cell is reduced, and

c) transplanting said cell into said mammalian transplant recipient such that said cell is said donor cell, and transmission of said infectious agent from said mammalian transplant recipient to said donor cell is reduced.

55. A method for reducing transmission of an infectious agent from a donor cell to a mammalian transplant recipient, said method comprising introducing a nucleic acid molecule into a cell such that, when said cell is transplanted into said mammalian transplant recipient thereby being said donor cell, transmission of said infectious agent from said donor cell to said mammalian transplant recipient is reduced.

56. The method of claim 55, wherein said nucleic acid molecule comprises a promoter operably linked to a nucleic acid segment encoding at least a portion of a receptor for said infectious agent.

57. The method of claim 55, wherein said nucleic acid molecule comprises a promoter operably linked to a nucleic acid segment encoding at least a portion of a polypeptide of said infectious agent.

58. The method of claim 57, wherein said infectious agent is a virus.

59. The method of claim 58, wherein said polypeptide is a surface glycoprotein.

60. The method of claim 55, wherein said nucleic acid molecule comprises a promoter operably linked to a nucleic acid segment encoding a fusion protein, wherein said fusion protein comprises:

- a) a first polypeptide segment comprising at least a portion of a polypeptide of said infectious agent, and
- b) a second polypeptide segment comprising degradative enzymatic activity.

61. The method of claim 60, wherein said degradative enzyme activity is a nuclease, protease, or lipase activity.

62. A method for reducing transmission of an infectious agent from a donor cell to a mammalian transplant recipient, said method comprising:

- a) introducing a nucleic acid molecule into a cell such that, when said cell is transplanted into said mammalian transplant recipient thereby being said donor cell, transmission of said infectious agent from said donor cell to said mammalian transplant recipient is reduced, and
- b) transplanting said cell into said mammalian transplant recipient such that said cell is said donor cell, and transmission of said infectious agent from said donor cell to said mammalian transplant recipient is reduced.

63. A method for reducing transmission of an infectious agent from a donor cell to a mammalian transplant recipient, said method comprising:

- a) providing a cell,
- b) introducing a nucleic acid molecule into said cell such that, when said cell is transplanted into said mammalian transplant recipient thereby being said donor cell, transmission of said infectious agent from said donor cell to said mammalian transplant recipient is reduced, and
- c) transplanting said cell into said mammalian transplant recipient such that said cell is said donor cell, and transmission of said infectious agent from said donor cell to said mammalian transplant recipient is reduced.--